DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONSTRUCTION PERMIT

Permit No. 0023-AC017, Revision 1: Final Issue Date: June 10, 2003

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues Permit No. 0023-AC017, Revision 1 to the permittee, **BP Exploration (Alaska) Inc. (BPX)**, for the **Nikiski Gas to Liquids Test Facility**.

This permit satisfies the obligation of the owner and operator to obtain a construction permit as set out in AS 46.14.130(a).

As required by AS 46.14.120(c), the permittee shall comply with the terms and conditions of this construction permit.

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John F. Kuterbach, Manager
Air Permits Program

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List of Abbreviations Used in this Permit

AAC .....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AS.....Alaska Statutes
ASTM.....American Society of Testing and Materials
CEMS.....Continuous Emission Monitoring System
C.F.R. .....Code of Federal Regulations
COMS .....Continuous Opacity Monitoring System
dscf.....Dry standard cubic foot
EPA .....US Environmental Protection Agency
gr./dscf.....grain per dry standard cubic foot (1 pound = 7000 grains)
GPH.....gallons per hour
HAPS.....Hazardous Air Pollutants [hazardous air contaminants as defined in AS 46.14.990(14)]
HHV .....higher heating value
ID.....Source Identification Number
MACT .....Maximum Achievable Control Technology
Mlb .....thousand pounds
NESHAPs.....Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 C.F.R. 61]
NSPS.....Federal New Source Performance Standards [as defined in 40 C.F.R. 60]
ppm.....Parts per million
ppmvd.....Parts per million by volume on a dry basis
PS .....Performance specification
PSA .....Pressure Swing Adsorption
PSD .....Prevention of Significant Deterioration
RM.....Reference Method
SIC.....Standard Industrial Classification
SO_2.....Sulfur dioxide
TPH .....Tons per hour
TPY .....Tons per year
VOC .....volatile organic compound [as defined in 18 AAC 50.990(103)]
Wt%.....weight percent

Section 1. Identification

Names and Addresses

Permittee:	BP Exploration (Alaska) Inc. 900 E. Benson Boulevard P.O. Box 196612 Anchorage, AK 99519-6612
Facility:	Gas to Liquids Test Facility
Location:	Latitude 60° 40’ 9” N; 151° 21’ 49” W
Physical Address:	Mile 20, North Kenai Road, Port of Nikiski, Kenai Peninsula Borough Tax ID Number 01505001
Owner:	BP Exploration (Alaska) Inc. 900 E. Benson Boulevard P.O. Box 196612 Anchorage, AK 99519-6612
Operator:	BP Exploration (Alaska) Inc. 900 E. Benson Boulevard P.O. Box 196612 Anchorage, AK 99519-6612
Permittee’s Responsible Official	Len Seymour BP Exploration (Alaska) Inc. 900 E. Benson Boulevard P.O. Box 196612 Anchorage, AK 99519-6612
Designated Agent:	CT Corporation Service Company 801 West 10th Street Juneau, AK 99801 907-586-3340
Facility and Building Contact:	Paul Richards Operations Supervisor BP Exploration (Alaska) Inc. 47560 Kenai Spur Highway Kenai, AK 99611

Fee Contact: Janet Platt
BP Exploration (Alaska) Inc.
900 E. Benson Boulevard
P. O. Box 196612
Anchorage, AK 99519-6612

SIC Code of the Facility: 1321

Natural Gas Liquid Extraction

NAICS Category: 211112—Establishments primarily engaged in the recovery of liquid hydrocarbons from oil and gas field gases.

[18 AAC 50.320(a), 1/18/97]

Section 2. General Emission Information

Emissions of Regulated Air Contaminants, as provided in permittee's application:

Oxides of Nitrogen

Carbon Monoxide

Particulate Matter

Sulfur Dioxide

Volatile Organic Compounds

Construction Permit Classifications:

a. 18 AAC 50.300(b)(2) – The Nikiski Gas to Liquids Test Facility is a facility containing fuel-burning equipment with a rated capacity of 100 MMBtu/hr or more.

b. Absent an Owner Requested Limit, 18 AAC 50.300(c)(2)(R) as a fuel conversion plant with a potential to emit greater than 100 tons per year of any air contaminant.

Owner Requested Limit Classifications as described under 18 AAC 50.305(a)(1) through (4):

a. Owner Requested Limit to avoid classification as a PSD Major Facility as listed in 18 AAC 50.305(a)(4).

Section 3. Fee Requirements

1. Assessable Emissions. The permittee shall pay to the department annual emission fees based on the facility's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air contaminant that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of

1.1 the facility's assessable potential to emit of 253.2 tpy; or

1.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the department, when demonstrated by

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

d. other methods and calculations approved by the department.

[18 AAC 50.400-420 & 18 AAC 50.346 (a)(1), 8/15/02]

2. Assessable Emissions Estimates. Emission fees will be assessed as follows:

2.1 no later than March 31 of each year, the permittee may submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates; or

2.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set out in condition 1.1.

[18 AAC 50.400 6/21/98; 18 AAC 50.410, 5/03/02]
[AAC 50.346 (a)(1), 05/03/02]

Section 4. Source Inventory and Description

Sources listed in Table 1 and Table 2 below have specific monitoring, record keeping, or reporting conditions in this permit. Source descriptions and ratings are given for identification purposes only.

Table 1 – Source Inventory

ID	Source Name	Source Description	Rating/size
Gas-fired Equipment			
1	Process Boiler	High Pressure gas-fired steam boiler	30.21 MMBtu/hr
2	Reformer	Reforms methane into syn-gas	62.28 MMBtu/hr
Other Equipment			
3	Flare	Process/Safety Flare	1,541 MMBtu/hr
4	Gas to Liquids Test Facility Equipment	VOC Fugitive Emission Source	300 bbl/day
5	Fuel Cell	Solid Oxide Fuel Cell	235 kW (315 hp)
Storage Tanks			
8	Storage Tank	Product Storage Tank	45,000 gallons

Table 2 - Insignificant Emission Units

ID	Source Name	Source Description	Rating/size
Insignificant Emission Units			
Emergency Engine			
7	Fuel Cell Backup Engine	Propane-fired Emergency Generator	20 kW (30 hp)
Insignificant Emission Units			
6	Smart Ash Incinerator	Electric Solid Waste Incinerator	50 lb/hr (batch process)
9	Miscellaneous	Fugitive Emissions	N/A
10	Comfort Heater	Natural Gas-forced air heater	0.088 MMBtu/hr
11	Comfort Heater	Natural Gas-forced air heater	0.088 MMBtu/hr
12	Space Heater	Warehouse Space Heater	0.15 MMBtu/hr
13	Space Heater	Warehouse Space Heater	0.15 MMBtu/hr
14	Space Heater	Warehouse Space Heater	0.15 MMBtu/hr
15	Space Heater	Warehouse Space Heater	0.15 MMBtu/hr
16	Space Heater	Warehouse Space Heater	0.15 MMBtu/hr
17	Space Heater	Warehouse Space Heater	0.15 MMBtu/hr
18	Space Heater	Boiler Room Space Heater	0.050 MMBtu/hr

Section 5. Source-Specific Requirements

Fuel Burning Equipment (Source IDs 1,2,3,5, 7 and 10 through 18)

3. Visible Emissions. The permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source IDs 1, 2, 3, 5, 7 and 10 through 18 to reduce visibility through the exhaust effluent by any of the following

a. more than 20% for more than three minutes in any one hour[*],

[18 AAC 50.055(a)(1), 1/18/97]
[40 C.F.R. 52.70, 11/18/98]

b. more than 20% averaged over any six consecutive minutes[†].

[18 AAC 50.055(a)(1) & 50.346(c), 5/3/02]

3.1 For Source IDs 1, 2, 3, 5, 7 and 10 through 18, burn only gas or propane as fuel. Monitoring for these sources shall consist of a certification in each operating report under condition 40 that each of these sources fired only gas or propane. Report under condition 38 if any fuel is burned other than gas or propane.

[18 AAC 50.346(c), 5/3/02]

4. Particulate Matter Emissions. In accordance with 18 AAC 50.055(b)(1), the permittee shall not cause or allow particulate matter emitted from Source IDs 1, 2, 3, 5, 7 and 10 through 18 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.346(c), 5/3/02; 18 AAC 50.055(b)(1), 5/3/02]

4.1 For Source IDS 1, 2, 3, 5, 7, and 10 through 18, burn only gas or propane as fuel. Monitoring for these sources shall consist of a certification in each operating report under condition 40 that each of these sources fired only gas or propane. Report under condition 38 if any fuel is burned other than gas or propane.

[18 AAC 50.346(c), 5/3/02]

5. Sulfur Compound Emissions. The permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from Source IDs 1, 2, 3, 5, 7 and 10 through 18 to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 5/3/02]
[18 AAC 50.320(a)(2), 1/18/97]

[*] For purposes of this permit, the "more than three minutes in any one hour" criterion in this condition will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA.

[†] The six-minute average standard is enforceable only by the state until 18 AAC 50.055(a)(1), dated May 3, 2002, is approved by EPA into the SIP at which time this standard becomes federally enforceable.

Fuel Gas (Source ID 1, 2, 3, 5, 7,and 10 through 18)

5.1 Compliance with this condition is assured by using a high pressure natural gas feed stock that contains less than 1.0 ppmv sulfur compounds or by using a zinc oxide catalyst to remove sulfur compounds from high pressure natural gas feed stock to less than 1.0 ppmv for the gas to liquids process.

5.2 No less than once a month, analyze a representative sample of the natural gas from both the low pressure and high pressure supply streams for hydrogen sulfide content. For the low pressure stream use the length-of-stain detector tube technique as set out in ASTM D 4810-88, ASTM D 4913-89, or GPA 2317-86. For the high pressure stream use the mass spectroscopy or length-of-stain detector tube technique as set out in ASTM D 4810-88, ASTM D 4913-89, or GPA 2317-86 and record the results of the analysis and the detection level of the technique.

5.3 Report under condition 38 whenever receiving natural gas fuel that does not meet the requirements of condition 5.1 or whenever the gas to liquids process is operating, yet the desulfurization unit does not remove sulfur compounds to less than 1.0 ppmv. When reporting under this condition, include a material balance calculation of the sulfur compound emissions, in ppm, expected from this fuel if the fuel sulfur content exceeds 4,000 ppmv.

5.4 Include in the report required by condition 40 a list of each analysis of the fuel gas during the reporting period, and any reports required by condition 5.3.

5.5 Keep records of the sulfur contents of each shipment of fuel, and all test results and calculations required under conditions 5.3, or 5.4. Report copies of the records with the report required by condition 40.

5.6 Submit a report in accordance with condition 38 if a three-hour exhaust concentration, calculated pursuant to condition 5.3, is greater than 500 ppm.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

Incinerator (Source ID 6)

6. Visible Emissions. The permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source 6, to exceed 20% opacity averaged over any six consecutive minutes.

6.1 Visible Emissions Monitoring - the permittee shall perform a Method 9 visible emissions observation within 90 calendar days after Source ID 6 startup.

a. The observation shall be conducted for no less than 18 minutes to obtain 72 individual 15-second readings.

b. If 18 consecutive minutes of Method 9 observations result in a six-minute average opacity greater than 20 percent, the permittee shall perform corrective

action and conduct a visible emission observation during operations on the next day of operations after the corrective action.

c. Visible Emissions Reporting - the permittee shall include in the facility operating report required under condition 40 a summary of the results of all Method 9 readings performed under condition 6.

[18 AAC 50.050(a)(1), 5/3/02, 18 AAC 50.050(a), 5/3/02]

Section 6. Federal New Source Performance Standards for boilers and tanks

7. Comply with the requirements of 40 C.F.R. 60, New Source Performance Standards (NSPS) as they apply to affected facilities specified below. Notify and report as set out below and as specified in condition 39.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

8. 40 C.F.R. 60, Subpart A. In accordance with 40 C.F.R. 60, Subpart A and 18 AAC 50.040, for each construction, modification, or reconstruction of other affected facilities and sources regulated under 40 C.F.R. 60:

8.1 Notify the department and EPA

a. No later than 30 days after construction/reconstruction commencement in accordance with 40 C.F.R. 60.7(a)(1);

b. No more than 15 days after startup in accordance with 40 C.F.R. 60.7(a)(3);

c. 60 days prior or as soon as practicable before modifying facilities that would be subject to NSPS as set out in 40 C.F.R. 60.7(a)(4); and

d. No less than 60 days prior to commencement of reconstruction or replacement of a facility, as defined in 40 C.F.R. 60, with information as set out in 40 C.F.R. 60.15(d).

[18 AAC 50.320(a)(2)(A-E), 1/18/97]
[18 AAC 50.040(a)(1), 8/15/02]

8.2 For Source IDs 1, 3, and 8 regulated under 40 C.F.R. 60, maintain records of occurrence and duration of start-up, shut-down, or malfunction of an affected facility, control equipment, or monitoring equipment as set out in 40 C.F.R. 60.7(b). Maintain a file of measurements as set out in 40 C.F.R. 60.7(b).

[18 AAC 50.320(a)(2)(A-E), 1/18/97]
[18 AAC 50.040(a)(1), 8/15/02]
[40 C.F.R. 60.7(b), Subpart A, 7/1/01]

8.3 **Good Air Pollution Control Practice.** At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate Source IDs 1, 3, and 8 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of Source ID 1, 3, and 8.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]
[18 AAC 50.040(a)(1), 8/15/02]
[40 C.F.R. 60.11(d), Subpart A, 7/1/01]

8.4 The permittee is prohibited from concealing a violation of any applicable NSPS standard as set out in 40 C.F.R. 60.12.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]
[18 AAC 50.040(a)(1), 8/15/02]
[40 C.F.R. 60.12, Subpart A, 7/1/01]

8.5 The permittee shall ensure the process and safety flare Source ID 3 compiles with 40 C.F.R. 60.18, as provided for in condition 10.2 and 10.3.

9. 40 C.F.R. 60, Subpart Dc. Process High Pressure Steam Boiler, Source ID 1--Applicability and delegation of authority, 40 C.F.R. 60.40c. An affected facility is a steam-generating unit, which commenced construction, modification, or reconstruction after June 9, 1989, and has a maximum design heat capacity between 10 and 100 MMBtu/hr.

9.1 Reporting and record keeping requirements, 40 C.F.R. 60.48c.

a. Include in the construction notification required under 40 C.F.R. 60.7 and condition 8.1, the information listed in 40 C.F.R. 60.48c(a).

[18 AAC 50.320(a)(2)(A-E), 1/18/97]
[18 AAC 50.040(a)(2)(E), 8/15/02]
[40 C.F.R. 60.48c(a), Subpart Dc, 7/1/01]

9.2 Except as provided for in an U.S. EPA alternative record keeping schedule or waiver, record and maintain records of the amounts of each fuel combusted during each day as required by 60.48c(g). Maintain the records in accordance with condition 37 in order to comply with the two-year record retention schedule listed in 40 C.F.R. 60.48c(h). Keep a copy of all EPA issued waivers and alternative schedules with the permit at the facility.

[18 AAC 50.040(a), 8/15/02]
[40 C.F.R. 60.48c(g), (i), Subpart Dc, 7/1/01]

10. 40 C.F.R. 60, Subpart Kb--Volatile Organic Liquid Storage Vessels

10.1 Standard for Volatile Organic Compounds (VOC).

a. Design and operate the closed vent system for Source ID 8 to collect all VOC vapors and gases discharged from the storage vessel with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in Part 60, Subpart VV, 40 C.F.R. 60.485(b).

[40 C.F.R. 60.112b(a)(3)(i), Subpart Kb, 7/1/01]

b. Design and operate the control device, Source ID 3 to reduce inlet VOC emissions by 95% or greater. Source ID 3 shall meet the specifications described in 40 C.F.R. 60.18, General Control Device Provisions.

[40 C.F.R. 60.112b(a)(3)(ii), Subpart Kb, 7/1/01]

10.2 Testing and Procedures. Meet the following requirements for Source ID 8, which is equipped with a closed vent system and flare:

a. Operate Source ID 3, Process Flare, at all times when emissions from Source ID 8 may be vented.

b. The permittee shall conduct testing procedures in accordance with 40 C.F.R. 60.18(f).

[40 C.F.R. 60.113b(d), Subpart Kb, 7/1/01]
[40 C.F.R. 60.18(e), (f), 7/1/01]

10.3 Reporting and recordkeeping requirements. After installing a closed vent system and flare to comply with condition 10.1, adhere to the following requirements.

a. Submit a report containing the measurements required by 40 C.F.R. 60.18(f)(1), (2), (3), (4), (5) and (6) to EPA within 6 months of the initial startup date.

b. Maintain records of all periods of operation during which the pilot flame was absent.

c. Submit a semi-annual report to EPA for all periods under condition 10.3 in which the pilot flame was absent.

[40 C.F.R. 60.115b(d), Subpart Kb, 7/1/01]

10.4 Monitoring of operations.

a. For Source ID 8, keep readily accessible records for the life of the tank showing the dimensions and an analysis showing the capacity of the storage vessel.

[40 C.F.R 60.116b(b), Subpart Kb, 7/1/01]

Section 7. Emission and operation limits to avoid classification as a PSD major facility

The following conditions are necessary to limit facility emissions to less than 100 tons per year.

11. Limit the total flare throughput capacity to no greater than 1,600 million standard cubic feet of all gases per 12 consecutive month period (12-month rolling total).

11.1 Monitor and record the total gas throughput flared in Source ID 3 no less than once a month.

11.2 Report as provided for in condition 40 the monthly total and total gas flared during the previous twelve months.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

12. Limit the total fugitive volatile organic compound emissions from process valves, flanges, pumps, compressors and open-ended lines Source ID 4 to no greater than 33.8 tons per year. Operate and maintain each pump, pressure relief device, open-ended valve or line, valve compressor and flange, or other connector in VOC or wet gas service, and each gas processing device or system in accordance with good operational practices. Tag and repair all leaking connectors, pumps, and compressors in VOC or wet gas service as soon as practicable. Maintain a log of preventive maintenance, surveillance activities, and repairs.

12.1 Conduct Process Equipment leak testing for initial/turnaround startup as set out in Section 14.

12.2 Route all process vents to either fuel burning equipment burners or the flare system.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

13. Limit the potential NO_X emissions from the Reformer Unit (Source ID 2), expressed as NO_2, to 23.5 tons per twelve-month rolling period. Limit the reformer's NO_X emissions by burning only natural gas and reformer fuel gas, and by installing a non-selective catalytic reduction system for NO_X abatement on the unit exhaust.

13.1 Install, calibrate, certify, operate, and maintain in accordance with condition 33, a continuous NO_X emission monitoring system (CEMS) on the exhaust stack of the reformer catalyst exhaust to measure emission concentrations and emission rates. Continuously monitor and record compliance with condition 13 based upon 3-hour block average oxides of nitrogen measurements. Continuously monitor the total volume of fuel gas burned in the reformer.

13.2 Calculate the daily average NO_X emission rate, expressed as NO_2, for Source ID 2's catalyst exhaust based on the methodology set out in 40 C.F.R. 60, Appendix A, Method 19 as follows:

$$E = [C_d F_d 20.9]/[20.9-O_{2d}]$$

Where:

$E = NO_X$ Emission Rate in ng/J (lb/MMBtu)
C_d = Concentration of dry NO_X in ng/scm (lb/scf)
F_d = Fuel Factor on a dry basis, scm/J (scf/MMBtu)
O_{2d} = Percent Oxygen on a dry basis, %

Calculate the fuel F-factor using the procedures listed in 40 C.F.R. 60 Appendix A, Method 19, Part 3.2.1.

13.3 Record the time, date, and total duration for which Source ID 2 operates while bypassing the Non-Seclective Catalytic Reduction controls during operation. Estimate the NO_X emission rate during bypass by assuming an exhaust NO_X concentration of 2,500 ppmvd, using the total fuel consumed during the bypass operations and the emission rate equation listed above.

13.4 Calculate and record the total daily NO_X emission rates expressed as NO_2, based on the daily reformer fuel consumption, and each of the applicable emission rates for bypass operations and catalyst exhaust.

13.5 Calculate and record the total NO_X emissions, expressed as NO_2, for Source ID 2 for each monthly and 12-month rolling total period by summing the daily total NO_X emission rates from the catalyst exhaust and the bypass operation.

13.6 Report the monthly total NO_X emissions and 12-month rolling NO_X emissions from Source ID 2's catalyst exhaust and bypass operation.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

14. Limit the process boiler (Source ID 1) NO_X emissions to no greater than 13.2 tons per twelve-month rolling period using as fuel only hydrocracker flash gas and natural gas, and by installing low NO_X burners capable of meeting 0.10 lb/MMBtu for natural gas and 0.12 lb/MMBtu for combustion of natural gas combined with Pressure Swing Adsorption (PSA) offgas, and/or hydrocracker flash gas.

14.1 Demonstrate compliance with the low NO_X burner limits by conducting a NO_X emission source test within six months after startup and no later than 60 days after reaching peak production rate. Conduct an emission test while firing only natural gas and an emission test while co-firing hydrocracker flash gas and PSA offgas. Monitor the firing rate of each fuel during each test. Analyze the specific heat of each fuel burned using the higher heating value (HHV) of the fuel.

14.2 Calculate the average NO_X emission rate for each fuel, expressed as NO_2, for Source ID 1's exhaust based on the NO_X emission source test results and methodology set out in 40 C.F.R. 60, Appendix A, Method 19 as follows:

$$E = [C_d F_d 20.9]/[20.9-O_{2w}/(1-B_{ws})]$$

Where:

$E = NO_X$ Emission Rate in ng/J (lb/MMBtu)
C_d = Concentration of dry NO_X in ng/scm (lb/scf)
F_d = Fuel Factor on a dry basis, scm/J (scf/MMBtu)
O_{2w} = Percent Oxygen on a wet basis, %
B_{ws} = Moisture Fraction of the effluent gas

For the PSA offgas and hydrocracker flash gas, calculate the fuel F-factor using the procedures listed in 40 C.F.R. 60 Appendix A, Method 19, Part 3.2.1.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

15. Limit the process boiler (Source ID 1) firing rate to no greater than 220,000 MMBtu per twelve-month rolling period, based on HHV.

15.1 Monitor compliance by monitoring and recording the total quantity of steam generated. Calculate the monthly firing rate of the boiler by multiplying the monthly total steam generated by the latent heat and dividing by the boiler's guaranteed efficiency.

15.2 Calculate the total monthly firing rate, and the twelve-month rolling firing rate for each month the process heater operates. Report in the facility operating report the total twelve-month rolling firing rate (HHV).

Owner-Requested Operating Limits for Emergency Equipment

16. Limit the operating hours of Source ID 7 to 500 hours during any consecutive 12-month period.

16.1 The permittee shall monitor and record the total number of hours of operation that Source ID 7 operates each month.

16.2 The permittee shall, each month, calculate and record the rolling 12-month total number of hours of operation for Source ID 7.

16.3 Report under condition 38 whenever the total number of hours that Source ID 7 operates in any consecutive 12-month period exceeds 500 hours.

16.4 Report in the facility operating report, required under condition 40, for Source ID 7:

a. The number of operating hours each month; and

b. The number of operating hours for the preceding 12-month period.

[18 AAC 50.305 (a)(4) 1/18/97]

Section 8. Generally Applicable Requirements

17. Asbestos NESHAP. The permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(3), 8/15/02]
[18 AAC 50.320(a)(2), 1/18/97]
[Federal Citation: 40 C.F.R. 61, Subpart M, 12/19/96]

18. Refrigerant Recycling and Disposal. The permittee shall comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F.

[18 AAC 50.040(d), 8/15/02]
[18 AAC 50.320(a)(2), 1/18/97]
[Federal Citation: 40 C.F.R. 82, Subpart F, 7/1/97]

19. Good Air Pollution Control Practice. The permittee shall install, maintain, and operate, in accordance with manufacturer's or the GTL test facility's procedures, fuel burning equipment, process equipment, emission control devices, testing equipment, and monitoring equipment to provide optimum control of air contaminant emissions during all operating periods. This condition is not federally-enforceable.

[18 AAC 50.030, 1/18/97]
[18 AAC 50.320(a)(2)(A), 1/18/97]

20. Dilution. The permittee shall not dilute emissions with air to comply with this permit.

[18 AAC 50.045(a) 1/18/97]

20.1 Check all ductwork and exhaust systems for leaks, and repair any leaks found

a. No sooner than 30 days prior to conducting a source test to demonstrate compliance with this permit,

[18 AAC 50.320(a)(2), 1/18/97]

20.2 Keep records of all inspections and repairs performed under this condition.

[18 AAC 50.320(a)(2)(D), 1/18/97]

20.3 Upon request of the department, submit copies of the records.

[18 AAC 50.320(a)(2)(E), 1/18/97]

21. Modification. The permittee shall not construct, operate, or modify a source that will result in a violation of the applicable emission standards or that will interfere with the attainment or maintenance of the ambient air quality standards or maximum allowable ambient concentrations.

[18 AAC 50.045(c), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

21.1 Obtain all permits or permit revisions required for construction, modification, or operation under 18 AAC 50 and AS 46.14.

[18 AAC 50.320(a)(2), 1/18/97]

21.2 Comply with the conditions of all permits obtained under 18 AAC 50 and AS 46.14.

[18 AAC 50.320(a)(2), 1/18/97]

22. Stack Injection. The permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the department.

[18 AAC 50.055(g) and 18 AAC 50.310(m), 1/18/97]

23. Air Pollution Prohibited. No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.110, 5/26/72]

24. Monitoring, Record Keeping, and Reporting for Air Pollution Prohibited

24.1 If emissions present a potential threat to human health or safety, the permittee shall report any such emissions according to condition 38.

24.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the permittee shall investigate the complaint to identify emissions that the permittee believes have caused or are causing a violation of condition 24.1.

24.3 The permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

a. after an investigation because of a complaint or other reason, the permittee believes that emissions from the facility have caused or are causing a violation of condition 24.1; or

b. the department notifies the permittee that it has found a violation of condition 24.1.

24.4 The permittee shall keep records of

a. the date, time, and nature of all emissions complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of any investigation, including reasons the permittee does or does not believe the emissions have caused a violation of condition 24.1; and

d. any corrective actions taken or planned for complaints attributable to emissions from the facility.

24.5 With each facility operating report under condition 40, the permittee shall include a brief summary report which must include

a. the number of complaints received;

b. the number of times the permittee or the department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the permittee or department found necessary that were not taken within 24 hours.

24.6 The permittee shall notify the department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.346(a)(2), 4/1/02]

25. Technology-Based Emission Standard. If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard listed in conditions 10, 17 and 18, the permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard.

[18 AAC 50.235(a), 6/14/98]
[18 AAC 50.320(a)(2), 1/18/97]

Section 9. General Source Testing and Monitoring Requirements

26. Requested Source Tests. In addition to any source testing explicitly required by this permit, the permittee shall conduct source testing as requested by the department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 1/18/97,& 18 AAC 50.345(k), 5/3/02]

27. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the permittee shall conduct source testing

27.1 At a point or points that characterize the actual discharge to into the ambient air; and

27.2 At the maximum rated burning or operating capacity of the source or another rate determined by the department to characterize the actual discharge into the ambient air.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

28. Reference Test Methods. The permittee shall use the following as reference test methods when conducting source testing for compliance with this permit, unless another test method is otherwise approved by the Department in accordance with 18 AAC 50.040(c)(2):

28.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

28.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

28.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

28.4 Visible emissions observations for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in 40 C.F.R. 60, Appendix A, Method 9. Source testing for reduction of visible emissions, exempt from written notification and reporting requirements listed in condition 30 through 32.

[18 AAC 50.320(a)(2)(a-c), 1/18/97]

28.5 Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified 40 C.F.R. 60, Appendix A.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

28.6 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

28.7 Source testing for emissions of any contaminant may be determined using an alternative method approved by the department in accordance with Method 301 in Appendix A to 40 C.F.R. 63.

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]

29. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(b) & (c), 1/18/97]
[18 AAC 50.320(a)(2)(A-C), 1/18/97]
[18 AAC 50.990(88), 11/15/02]

30. Test Plans. Before conducting any source tests, the permittee shall submit a plan to the department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the source will operate during the test and how the permittee will document this operation. A complete plan must be submitted within 60 days of receiving a request under condition 26 and at least 30 days before the scheduled date of any tests.

[18 AAC 50.345(m), 8/15/02]
[18 AAC 50.320(a)(2), 8/15/02]
[18 AAC 50.320(a)(2)(A-C), 8/15/02]

31. Test Notification. At least 10 days before conducting a source test, the permittee shall give the department written notice of the date and time the source test will begin.

[18 AAC 50.345(n), 5/3/02]
[18 AAC 50.320(a)(2), 1/18/97]
[18 AAC 50.335(g), 6/21/98]

32. Test Reports. Within 60 days after completing a source test, the permittee shall submit two copies of the results, to the extent practical, in the format set out in the *Source Test Report Outline* of Volume III, Section IV.3, of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8). The permittee shall certify the results as set out in condition 34 of this permit.

[18 AAC 50.345(a)(10), 5/3/02]
[18 AAC 50.320(a)(2), 1/18/97]
[18 AAC 50.320(a)(2)(A-E), 1/18/97]

33. Install; calibrate; conduct applicable continuous monitoring system performance tests listed in 40 C.F.R. 60, Appendix B, and certify test results; operate; and maintain air contaminant emissions and process monitoring equipment on the sources as described herein and in documents provided by the permittee, listed in Section 15. Submit monitoring equipment siting, operation, and maintenance plans and procedures for approval by the department.

For continuous emission monitoring systems, comply with each applicable monitoring system requirement, as listed in 40 C.F.R. 60.13, 60.19, 40 C.F.R. 60, Appendix F, and the *EPA Quality Assurance Handbook For Air Pollution Measurements*, EPA/600 R-94/038b, effective July 1, 1997, with two exceptions. 1) Continuous monitoring system data will be acquired, processed and recorded on the facility's distributed control system, and 2) Notification and reports will be provided to only the Alaska Department of Environmental Conservation, not to U.S. Environmental Protection Agency. Attach to the Facility Operating Report required by condition 40, a copy of each continuous emission monitoring system data assessment report for Quality Assurance Procedures conducted in accordance with 40 C.F.R. 60, Appendix F.

[18 AAC 50.320(a)(2)(A-E), 1/18/97]

Section 10. General Recordkeeping and Reporting Requirements

34. Certification. The permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal. When certifying a compliance certification, the official's signature must be notarized.

[18 AAC 50.205, 1/18/97]
[18 AAC 50.345(j), 5/3/02]
[18 AAC 50.320(a)(2), 1/18/97]

35. Submittals. Unless otherwise directed by the department or this permit, the permittee shall send reports and other documents required by this permit to ADEC, Air Permits Office, 610 University Avenue, Fairbanks, AK 99709, ATTN: Compliance Technician.

[18 AAC 50.320(a)(2)(E), 1/18/97]

36. Information Requests. The permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit, or to determine compliance with the permit. Upon request, the permittee shall furnish to the department copies of records required to be kept by this permit. The department, in its discretion, will require the permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200, 1/18/97]
[18 AAC 50.345(i), 5/3/02]
[18 AAC 50.320(a)(2) & 18 AAC 50.320(a)(2)(A-E), 1/18/97]

37. Recordkeeping Requirements. The permittee shall keep all records required by this permit for at least five years after the date of collection, including

37.1 Copies of all reports and certifications submitted pursuant to this Section of this permit.

37.2 Records of all monitoring required by this permit, and information about the monitoring including

a. calibration and maintenance records, original strip chart, or computer-based recordings for continuous monitoring instrumentation;

b. sampling dates and times of sampling and measurements;

c. the operating conditions that existed at the time of sampling or measurement;

d. the date analyses were performed;

e. the location where samples were taken;

f. the company or entity that performed the sampling and analyses;

g. the analytical techniques or methods used in the analyses; and

h. the results of the analyses.

[18 AAC 50.320(a)(2)(D), 1/18/97]

38. Excess Emissions and Permit Deviation Reports.

38.1 Except as provided in condition 24, the permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the permittee believes to be unavoidable;

b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;

c. report all other excess emissions and permit deviations

(i) within 30 days of the end of the month in which the emissions or deviation occurs, except as provided in conditions 38.1c(ii) and 38.1c(iii);

(ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the department provides written permission to report under condition 38.1c(i); and

(iii) for failure to monitor, as required in other applicable conditions of this permit.

38.2 When reporting excess emissions, the permittee must report using either the department's online form, which can be found at www.state.ak.us/dec/awq/excess/report.asp, or if the permittee prefers, the form contained in Section 13 of this permit. The permittee must provide all information called for by the form that is used.

38.3 When reporting a permit deviation, the permittee must use either the department's online form, which can be found at http://www.state.ak.us/dec/dawq/aqm/eeform.pdf, or if the permittee prefers, the form contained in Section 13 of this permit. The permittee must provide all information called for by the form.

38.4 If requested by the department, the permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

[18 AAC 50.346 4/1/2002]

39. NSPS and NESHAP Reports. The permittee shall submit to the department copies of reports required by conditions 8, 9, and 10.3, as they apply to the facility as follows:

39.1 Attach a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 to the Operating Report required by condition 40.

39.2 The permittee shall notify the department of any EPA granted waivers of NSPS or NESHAPs emission standards, recordkeeping, monitoring, performance testing, or reporting requirements within 30 days after the permittee receives a waiver.

[18 AAC 50.040, 8/15/02]
[40 C.F.R. 60 & 40 C.F.R. 61, 7/1/01]

40. Operating Reports. During the life of this permit, the permittee shall submit an original and two copies of an operating report by April 30 for the period January 1 to March 31, by July 30 for the period April 1 to June 30, by October 30 for the period July 1 to September 30, and by February 15 for the period October 1 to December 31.

40.1 The operating report must include all information required to be in operating reports by other conditions of this permit.

40.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under condition 40.1, either

a. The permittee shall identify

(i) the date of the deviation;

(ii) the equipment involved;

(iii) the permit condition affected;

(iv) a description of the excess emissions or permit deviation; and

(v) any corrective action or preventive measures taken and the date of such actions; or

b. When excess emissions or permit deviations have already been reported under condition 40, the permittee may cite the date or dates of those reports.

[18 AAC 50.346(b)(3), 5/3/02; 18 AAC 50.350(d)(4), 5/3/02 and 18 AAC 50.350(f)(3) & (i), 5/3/02]

Section 11. Standard Conditions Not Otherwise Included in the Permit

41. The permittee must comply with each permit term and condition. Noncompliance constitutes a violation of AS 46.14, 18 AAC 50, and the Clean Air Act, except for those requirements designated as not federally-enforceable, and is grounds for:

41.1 an enforcement action,

41.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

41.3 denial of a construction-permit renewal application.

[18 AAC 50.345(a)(1), 1/18/97]
[18 AAC 50.320(a)(1), 1/18/97]

42. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.345(d), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

43. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.345(a)(3), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

44. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

44.1 included and specifically identified in the permit, or

44.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.345(a)(4), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

45. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

[18 AAC 50.345(f), 1/18/97]
[18 AAC 50.320(a-c), 1/18/97]

46. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.345(g), 1/18/97]
[18 AAC 50.320(b), 1/18/97]

47. The permittee shall allow the department or an inspector authorized by the department, upon presentation of credentials and at reasonable times, with the consent of the owner or operator, to:

47.1 enter upon the premises where a source subject to the permit is located or where records required by the permit are kept,

47.2 have access to and copy any records required by the permit,

47.3 inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit, and

47.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.345(h), 1/18/97]
[18 AAC 50.320(a)(2), 1/18/97]

Section 12. Visible Emissions Field Data Sheet

Certified Observer:_____

Company: _____

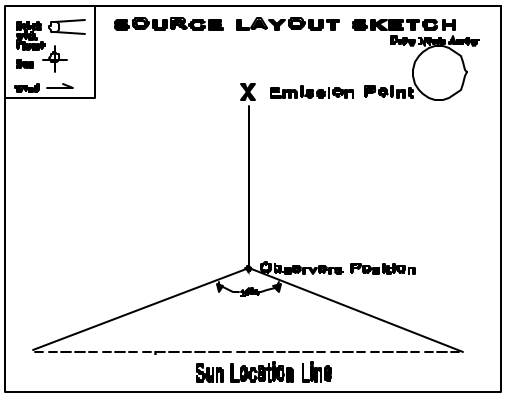
Location: _____

Test No.: _____ Date: _____

Source: _____

Production Rate, Operating Rate & Unit Operating Hours: _____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description: Color					
Distance visible					
Water droplet plume? (attached or detached?)					
Other information					

Visible Emissions Observation Record (Continued)

Page ___ of ___

Company _____ Certified Observer_____

Test Number _____ Clock time_____

Date:		Visibility reduction every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

_____
Observer Signature

Data Reduction:
Duration of Observation Period (minutes) _____
Number of Observations _____
Number of Observations exceeding 20% _____

Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 13. ADEC Notification Form

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

BP Exploration (Alaska) Inc.
Company Name

Gas to Liquids Test Facility
Facility Name

Reason for notification:

❑ **Excess Emissions** — *If you checked this box fill out section 1*

❑ **Other Deviation from Permit Condition** — *If you checked this box fill out section 2*

When did you discover the Excess Emissions or Other Deviation:
Date:__/__/__ Time:__:__

Section 1. Excess Emissions

(a) Event Information (Use 24-hour clock)**:**

	START Time**:** (hr:min):	**END** Time:	**Duration**
Date: _____	_____:_____	_____:_____	_____:_____
Date: _____	_____:_____	_____:_____	_____:_____
		Total:	_____:_____

(b) Cause of Event (Check all that apply)**:**

❑ START UP ❑ UPSET CONDITION ❑ CONTROL EQUIPMENT
❑ SHUT DOWN ❑ SCHEDULED MAINTENANCE ❑ OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

(c) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device

(d) Emission Limit Potentially Exceeded

Identify each emission standard potentially exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Identify what observation or data prompted this report. Attach additional sheets as necessary.

Permit Condition	Limit	Emissions Observed

(e) Excess Emission Reduction:

Attach a description of the measures taken to minimize and/or control emissions during the event.

(f) Corrective Actions:

Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.

(g) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable?

❑ YES ❑ NO

Do you intend to assert the affirmative defense of 18 AAC 50.235?

❑ YES ❑ NO

Section 2. Other Permit Deviations

(a) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device

(b) Permit Condition Deviation:

Identify each permit condition deviation or potential deviation. Attach additional sheets as necessary.

Permit Condition	Potential Deviation

(c) Corrective Actions:

Attach a description of actions taken to correct the deviation or potential deviation and to prevent recurrence.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name:

Signature: Date

Section 14. Leak Testing—Initial and Turn-around

Scope:

This procedure provides the guidelines for the safe, efficient, and systematic survey for leaks in any Gas System Startup Operation (either Initial or after equipment maintenance or a turnaround). This procedure does not supersede, nor does it relieve responsibility for compliance with, any other specific procedure(s) that may be required. This procedure is used in conjunction with *the Alaska Safety Handbook*, and the latest P & IDs, which are referenced as appropriate.

Reference BP Exploration's Guidance on Certification, Section 3.2.2 and 3.2.5

This procedure is applicable to the following equipment:

- All hydrocarbon-containing systems will be leak checked at the initial commissioning phase prior to operation, per the details outlined in Section 14. Leak checks will then only be conducted when maintenance is performed on hydrocarbon-containing equipment and pipework, where the system is broken and reinstated. Only the reinstated joints will be leak checked prior to operation as outlined in Section 14.

Procedures:

Steps	Key Points
1. Isolate Equipment or System to be checked. List P & IDs as applicable	• ensure all maintenance procedures are completed and work permits closed out; • ensure all lowpoint drains are plugged and piping is ready for pressurization • Identify system limits (Flagging / Tagging) and communicate initiation of procedure / leak test to other personnel in the area • Fully tape all flanges & manways that were opened for maintenance or otherwise disturbed. If an initial plant or system startup, all flanges should be taped. A small hole should be created at the 12 o'clock position to allow sniffing for leaks. • Control valves, rotating equipment, and other special devices should be prepared for service (seal systems checkout and functioning, valve packing at correct tightness, etc)
2. Initial Leak Test using air List P & IDs as applicable	• Slowly pressurize system using plant air to check for gross leaks (such as missing gaskets, open bleed valves, etc.) • If possible, temporarily shutdown HVAC equipment to minimize ambient noise in the area. • Pressure system / equipment to 50 PSIG and isolate air source. Mark time and watch for pressure loss. • Walk down / survey system for leaks if pressure falls off. Correct the problem or initiate repair prior to proceeding

3. Inert system / Prepare to introduce hydrocarbons / process fluids List P & IDs as applicable	• Release air pressure from system by slowly venting to atmosphere (do not vent air into operating flare systems) • Connect Nitrogen or CO_2 source to purge / pressurize system. Configuration of the system (vessels, dead legs in piping, etc.) will determine if flow purge or pressure 'Pop-ing" will adequately inert the system • Purge system until O_2 content is <1% as indicated by a calibrated Tankscope

4. Pressurization and Leak Survey

   List P&IDs as applicable

- Using Fuel or dry gas, begin pressurizing system with hold points every 100 psig, or as designated by manufacture's or specific procedure recommendations.

- At each hold point, isolate pressure source and watch for pressure loss. Survey of flanges and valve packings can begin at any time.

- Leak repair can be as simple as tightening a packing, or as extreme as depressuring the system to replace gaskets or components. If system integrity is lost, the inerting steps should be repeated. Unions and threaded connections should not be tightened under high pressure.

- When operating pressure is reached, the final survey should visit every flange and valve / fitting. Gas detectors are best to sniff the hole in taped flanges, and ultrasonic leak detectors work best on valve packings and instrument tubing or other fittings. Taped flanges should be initialed as "Checked OK" with magic marker.

- System should not be put in service with leaks unless the leaking component can be isolated and it is not necessary for safe operation.

Section 15. Permit Application Documentation

July 13, 2000	BPX request for department concurrence regarding permit requirements.
July 21, 2000	Department concurrence regarding permit requirements.
July 25, 2000	BPX Application for Air Quality Construction Permit.
July 25, 2000	BPX Project Consistency Review Packet to DGC.
November 22, 2000	BPX comments on Preliminary Permit.
May 2002	BPX Amendment Application X 158
August 26, 2002	BPX request for additional amendment changes
January 23, 2003	BPX request for additional amendment changes, response to questions, permit hygiene requests.
January 29, 2003	BPX's notification of operational change.
May 5, 2003	BPX comments on Preliminary Permit
June 10, 2003	ADEC response to comments.